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FITCH EVEN TABIN & FLANNERY
120 SOUTH LASALLE STREET
SUITE 1600
CHICAGO, IL 60603-3406

EXAMINER	
TRUONG, CAMQUY	
ART UNIT	PAPER NUMBER
2195	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/804,790	OKA, MASAAKI	
	Examiner	Art Unit	
	CAMQUY TRUONG	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-16 are presented for examination.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following terms lack proper antecedent basis:

i. the actual magnitude of the load – claim 1, line 11 and the magnitude of the load – claim 1, lines 13-14.

ii. the load of an information processing requested - claim 11, line 8.

iii. the resources – claim 14, line 5.

iv. the magnitude of the load – claim 14, line 13.

v. the processes – claim 15, line 3.

vi. the information processing device – claim 15, line 8.

B. The claim language in the following claim is not clearly understood:

i. As to claim 1, line 7, it is not clearly defined what “metric information” is (i.e. capability or workload). For examination purpose, Examiner interpret metric information is any type of information. Lines 11-12, it is not clearly indicated who

sent "information processing request" (i.e. first or other information processing device?); Lines 13-16, it is not clearly indicated how the comparing step is performed so that to determine the available device and base on what standard (i.e. it's load is less than it's capability or the actual magnitude of the load measured less than the metric information); Line 18, it is not clearly indicated whether " task" refers to " program execution" or " information processing requested".

ii. As to claim 11, line 5, it is not clearly defined what "metric information" is (i.e. capability or workload). For examination purpose, Examiner interpret metric information is any type of information; Lines 8-9, it is not clearly indicated who sent "information processing request" (i.e. first or other information processing device?); Lines 10-14, it is unclearly indicated how the comparing step is performed so that to determine the available device and base on what standard (i.e. it's load is less than it's capability or the actual magnitude of the load measured less than the metric information).

Iii. As to claim 14, line 2, it is not clearly defined what "processing metric" is (i.e. capability or workload). For examination purpose, Examiner interpret metric information is any type of information; Lines 7-8, it is not clearly indicated who sent "processing request" (i.e. client or one of the plurality of the information processing device?); Lines 9-12, it is not clearly indicated whether " request" refers to " processing request" in lines 7-8; Lines 13-16, it is unclearly indicated how the comparing step is performed so that to determine the available device

and base on what standard (i.e. it's load is less than it's capability or the actual magnitude of the load measured less than the metric information).

iv. As to claim 15, lines 4-7, it is not clearly indicated what "processing metric" is (i.e. capability or workload). For examination purpose, Examiner interpret metric information is any type of information; Lines 7-8, it is not clearly indicated who sent "certain request" (i.e. client or one of the plurality of the other information processing device?)

ii. Claims 2-10, 12-13, 13 and 16 do not cure the deficiency of claims 1, 11, 14 and 15 above, therefore; they are rejected for the same reason above.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. **Claims 1-8 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rabinovich (U.S. 6,484,204) in view of Deng et al. (U.S. 6,938,256 B2).**

4. As to claim 1, Rabinovich teaches the invention substantially as claimed including an information processing system comprising:

at least one of the information processing devices each comprising program execution (col. 6, lines 11-19);

at least a first information processing device (101, request distributor) of the plurality of the information processing devices (Fig.1) further comprising:

said metric information representing processing metric of a part or whole of other information processing devices excluding the information processing device itself (col. 7, lines 33-42);

load measurement means for measuring the magnitude of the load of information processing requested (determine the value of the request metric which is the historical measure of the request for the object, col. 6, line 67 – col. 7, line 20);

determination means for determining at least one available device by comparing the magnitude of the load measured by the load measurement means and the metric information stored in said metric information management means (col. 7, lines 43-47), said at least one available device being capable of executing a part or whole of said information processing request (col. 4, lines 58-61);

task assignment means for assigning a task corresponding to a part or whole of the information processing requested to the at least available device determined by said determination means (forward the requests to the selected host, col. 4, lines 61-63; col. 7, lines 36-42).

5. Rabinovich does not explicitly teach metric information management means for storing metric information in an updateable manner. However, Deng teaches metric

information management means for storing metric information in an updateable manner (collecting resource capability information into resource table, col. 5, lines 37-38 and lines 46-48).

6. It would have been obvious to one of ordinary skill in the art at the modify the teaching of Rabinovich by incorporating the teaching of metric information management means for storing metric information in an updateable manner as taught by Deng because this allows to maximize the efficiency and fault tolerance of the resources.

7. As to claim 2, Deng teaches said metric information management means includes:

first list management means for acquiring first metric information representative of static processing metric of said other information processing devices to determine at least one available device (collecting resource capability information of each server and

ranks the available servers ..., col. 5, lines 38-40 and col. 6, lines 34-40), and storing a first list in a predetermined memory area, said first list being such that the available devices determined are listed (col. 5, lines 49-56); and

second management means for measuring second metric information representative of dynamic processing metric of the available devices listed in said first list, creating a second list such that the second metric information measured is classified and listed per processing metric, sorting the available devices having the second metric information listed in the second list according to the task execution

condition to determine at least one available device suitable for each task execution condition, and storing an index list, in which the determined at least one available device is listed, in a predetermined memory area; wherein the second metric information of the available devices listed in the index list is read from said memory area and supplied as said metric information to said determination means (ranking available server, col.6, lines 34-39).

8. As to claim 3, Deng teaches said first list management means uses, as said first metric information, configuration information of the program execution means provided by individual information processing devices and information representative of the type of program that can be executed by said program execution means, and compares said first metric information regarding a plurality of information processing devices, thereby determining the listing order in said first list (col. 5, lines 57-67).

9. As to claim 4, Deng teaches said second list management means sends a processing request to the available device listed in said first list, and receives a response result corresponding to the processing request, thereby acquiring said second metric information of that available device (col. 7, lines 40-45).

10. As to claim 5, Deng teaches said second list management means weights said second metric information with a coefficient value that is preset according to the type of processing metric, thereby creating said second list per processing metric (computing a

vector space distance, col. 8, lines 28-34).

11. As to claim 6, it is rejected for the same reason as claim 2.

12. As to claim 7, Deng teaches said second list management means updates said created second list and said index list more frequently than said first list (the vector space distance update to an element in a cost matrix initialized at the start of the predetermined time interval, col. 8, lines 28-34) .

13. As to claim 8, Deng teaches said plurality of information processing devices are interconnected via a network, and said second list management means sends said processing request via said network, and receives a response result corresponding to the processing request via said network (Fig. 3).

14. As to claim 16, it is rejected for the same reason as claim 1.

15. **Claims 9-15 are rejected under 35 U.S.C. 102(e) as being unpatentable over Rabinovich (U.S. 6,484,204) in view of Deng et al. (U.S. 6,938,256 B2), as applied to claim 1 above, and further in view Doyle (U.S. 6,009,455).**

16. As to claim 11, Rabinovich teaches an information processing device for

executing information processing such that the magnitude of its load is unpredictable, said information processing device comprising:

program execution means is partitioned into a plurality of clusters (col. 6, lines 11-20 and lines 37-40); and

said metric information representing processing metric of each of the plurality of clusters of said program execution means (a system status monitor to collect resource capability information of each server, col. 4, lines 41-52);

load measurement means for measuring the magnitude of the load of the information processing requested devices, wherein the magnitude of the load is unpredictable (determine the value of the request metric which is the historical measure of the request for the object, col. 6, line 67 – col. 7, line 20);

determination means for determining one or more available device by comparing bv the magnitude of the load measured by said load measurement means and the metric information stored in said metric information management means, (col. 7, lines 43-47), said at least one available clusters capable of executing a part or whole of said information processing requested (col. 4, lines 58-61);

task assignment means for assigning a part or whole of said information processing requested to each of said of clusters determined by said determination means (forward the requests to the selected host, col. 4, lines 61-63; col. 7, lines 36-42).

17. Rabinovich does not explicitly teach metric information management means for storing metric information in an updateable manner. However, Deng teaches metric information management means for storing metric information in an updateable manner (collecting resource capability information into resource table, col. 5, lines 37-38 and lines 46-48).

18. It would have been obvious to one of ordinary skill in the art at the modify the teaching of Rabinovich by incorporating the teaching of metric information management means for storing metric information in an updateable manner as taught by Deng because this allows to maximize the efficiency and fault tolerance of the resources.

19. Rabinovich and Deng do not explicitly teaches output means for combining execution results and outputting the combined results from the respective clusters assigned by said task assignment means. However, Doyle teaches output means for combining execution results and outputting the combined results from the respective clusters assigned by said task assignment means (the result generated for each segment are combined by the application-specific job output, col. 3, lines 17-24).

20. It would have been obvious to one of ordinary skill in the art at the modify the teaching of Rabinovich and Deng by incorporating the teaching of program execution means is partitioned into a plurality of clusters; and output means for combining execution results and outputting the combined results from the respective clusters

assigned by said task assignment means as taught by Doyle because this allows the combined result is output for storage or display for further use.

21. As to claims 9-10, Deng teaches at least one of said plurality of information processing devices is configured so that: said program execution means is partitioned into a plurality of clusters (distribute the requests to one of several server group, col. 2, lines 18-25);

Doyle teaches the operating status of each cluster can be notified to other information processing devices (available of client, col. 4, lines 16-20).

22. As to claim 12, Doyle teaches processing request execution means for executing required information processing corresponding to a processing request issued by another information processing device, and returning the execution result thereof, together with a transmission start time to said another information processing device and notification means for notifying the metric information stored in said metric information management means to other information processing devices (col. 12, lines 35-50).

23. As to claim 13, Deng teaches each of said plurality of clusters further comprises a processor (computer server, col. 2, lines 24-25).

24. As to claims 13-15, they are rejected for the same reason as claim 11.

Response to the argument

25. Applicant's arguments filed 4/21/09 for claims 1-16 have been considered but are moot in view of the new ground(s) rejection.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CAMQUY TRUONG whose telephone number is (571)272-3773. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng Ai An can be reached on (703)305-9678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195

Camquy Truong

July 25, 2009